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Drive India

SEW EURODRIVE

The SEW-EURODRIVE Customer Magazine

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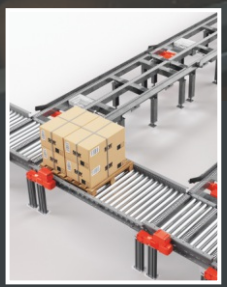

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Dear Reader,

I'm pleased to inform you that we have overcome the supply disruption in our electronics product line caused by the global shortage on chips for industrial electronics. Our value proposition of short and assured delivery times for electronic products, particularly within our flagship MOVI-C® family, has been restored. I extend heartfelt thanks to all our customers for their trust and support during this challenging period.

SEW-EURODRIVE specializes in offering complete drive solutions with our own range of products. Our engineers work directly with machine manufacturers to enhance critical deliverables like precision, reliability and output. In this edition's customer story, we explore how SEW's expertise assisted Workwell Engineers, an Ahmedabad-based OEM of equipment for plywood laminate production, in sorting out issues and enhancing the performance of their existing machines.

The product story highlights MOVIMOT® advanced, a decentralized drive unit from the new MOVI-C® family. When combined with our modular geared motor system, it offers numerous benefits, making it ideally suited for material handling applications.

In recognition of the increasing importance of Bengaluru as a hub for industrial automation in India, we have opened a Drive Centre there, bringing our best in class pre and post sales engineering support, including hands on training, even closer to our End User and OE customers in the region. DriveIndia interviews Dhananjay Bendale, our Head of Automation, to explain the significance of the Drive Centre.

I wish you happy reading!

S. Vasudevan
Managing Director, SEW-EURODRIVE India

Driving Productivity: SEW's tailored solution for Workwell Engineers

Workwell Engineers, located in Ahmedabad, specializes in manufacturing a range of machinery for laminate and shuttering plywood production, including laminate sheet cutting machines, PP wrapping machines and material handling systems. With over 75 years of experience, Workwell Engineers has garnered extensive expertise in this field and have emerged as one of the leading players in the industry.

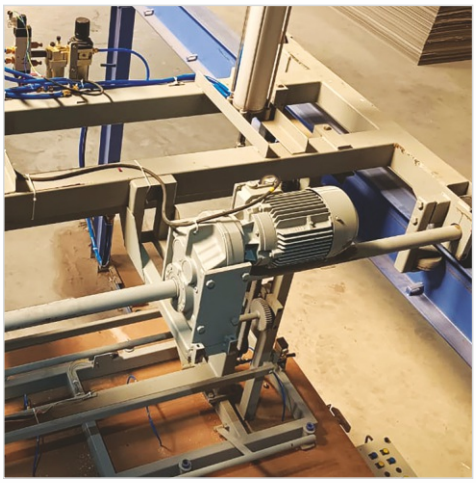
The Application

The process of manufacturing laminates involves layering a stack of papers (including craft paper, base paper, overlay tissue, and resin) onto the mold plate at the assembly station. Once the stack is complete, the mold plate with the stack is then transferred to the hydraulic press by trolley. After undergoing compression and heating in the hydraulic press, the mold plate with the bonded and finished laminate is conveyed by trolley to the breakdown station where the laminates are removed. Then a pick and place mechanism, comprising an overhead trolley and a drive system transfers the empty mold plate to the assembly station for the next cycle. The efficiency and speed of the pick and place operation significantly impacts the productivity of the laminate manufacturing process.

Challenge with Conventional System

The existing pick and place machine's drive system featured a worm gearbox coupled with an IEC motor and an inverter all sourced from different manufacturers. Frequent failures and wear-out of the gearbox was a primary challenge. Despite the use of proximity sensors, the required positioning accuracy was not achieved, resulting in poor system efficiency and cycle times.

In an attempt to improve the accuracy of trolley axis positioning, pneumatic cylinders were installed as an additional layer to manually reposition the trolley axis when required, further exacerbating poor cycle times and maintenance complexity. These characteristics of the existing system, marked by low positioning accuracy, high cycle times, and high maintenance requirements, highlighted the need for a more modern and precise solution.



The Solution Was Apt

To overcome challenges with the old system, SEW's technical team thoroughly analysed the operational cycle required by Workwell Engineers. From the product side the proposed solution was an SEW MOVITRAC®B inverter and an F-type parallel shaft helical gearmotor. From the software side a key improvement was the implementation of IPOs-based slip removal program for the trolley, which substantially increased the positioning accuracy. Removing pneumatic cylinders reduced maintenance and boosted productivity. SEW's solution offered the choice between proximity sensor and encoder modes, allowing customers to select either based on their cycle time requirements.

Tailored to meet precise needs, this solution effectively resolved previous issues, reducing cycle time by 40% and increasing overall production significantly. Additionally, providing the option of both Encoder and Proximity Sensor modes empowered operators to customize start and stop functions, adding convenience to operations.

Key Benefits

- Reduced cycle time by 40% which enhanced performance of the machine and increased productivity
- Accurate positioning increased machine efficiency
- Reliable operation reduced downtime and cost
- 100% solution from single source

Another Satisfied Customer

The loading & unloading system of the laminate machine with SEW's solution integrated, is now operational and working flawlessly for extended periods at over 40 End User sites across India.

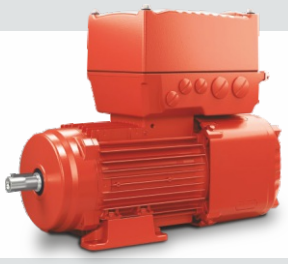
Technical Specifications

Gearmotor type	FA47B DIBE90M4
Operating torque	164 Nm
Drive	MOVITRAC® MC07B0015-5A3-4-00/T
Power	1.5 kW

"We highly appreciate the performance what we achieved by upgrading to SEW solution especially the accuracy of the machines under variable inertia loads seemed to be constant in repeated cycles over a vast period of time. We say they have perfect solution for various material handling applications."

Punit Gajjar, Technical Director, Workwell Engineers

Cost-effective MOVIMOT® advanced enhances SEW's decentralised portfolio



SEW-EURODRIVE has introduced the MOVIMOT® advanced, a decentralised drive unit as a part of MOVI-C® modular automation system. This new drive unit enhances flexibility and offers highest energy efficiency.

The MOVIMOT® advanced drive unit, designed to meet optimal requirements by combining all standard SEW Gear units in 7 & 9 series caters to a diverse range of customers' logistics applications.

Introduction

MOVIMOT® advanced drive unit with integrated decentralised inverter complements existing MOVI-C® products in functionality and consistency and extends the range of possible applications for our decentralised drive technology. This compact decentralised frequency inverter pairs with a range of motors having various possible options from IE3 asynchronous DRN series motor to IE5 synchronous DR2C series motor and flexible gear unit mounting positon.

MOVIMOT® Advanced has a high overload capacity which serves to reduce the installed size of the unit and to avoid oversizing in static operation.

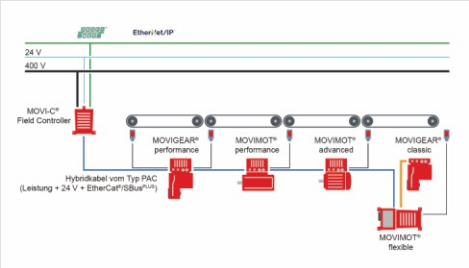
One technology many options

- It can be combined with all standard SEW gear units
- Various brake options with manual release as an additional option
- Brake motors can absorb regenerative energy, avoiding the need for internal braking resistors
- Integrated maintenance switch (optional)
- Efficiency class of motors
  - IE3 with DRN motor
  - IE4 with DRU motor
  - IE5 with DR2C motor
- Higher overload capacity
  - 210% for DRN
  - 280% for DR2C

New Design - New Benefits

- **Energy Efficient:** IE5 efficiency motor reduces energy demand by upto 30%
- **Versatile:** Advanced sensor-less open-loop control and optional single-turn DDI (Digital Data Interface) encoder provide precise speed regulation and positioning for a wide range of applications
- **Flexible:** Industrial connectors as an option for easy and time-saving installation and common electronics for all IE3 to IE5 motors
- **DDI:** Integrated DDI technology enables condition monitoring without additional sensors. Digital motor interface with an electronic nameplate that includes all drive unit data. This saves time by eliminating the need for manual motor startup.
- **Functional Safety:**
  - Integrated STO
  - **Optional:** CSB51A for STO via PROFIsafe, CIP-Safety or FSoE
  - **Optional:** CSL51A for safe inputs, SLS and STO via PROFIsafe, CIP-Safety or FSoE

MOVI-C® Topology for Decentralised



- **Cost effective:** Innovative Sine Seal oil seal reduces wear and increases service life.

Applications

MOVIMOT® advanced is the standard solution for all material handling applications. It is suitable for a wide range of applications where speed control and positioning are critical. It provides a high performance connection for standard communication systems.

- Intelligent conveyor axis for material handling technology
- Logistics/storage technology
- Material handling
- Simple lifting axis
- Positioning axis

Technical Specifications

Nominal Power Rating	0.37 to 7.5 kW(DRN)
	0.75 to 2.4 kW(DR2C)
Connection Voltage	380 V- 500 V at 50/60 Hz
Communication Variants	– DFC – Direct fieldbus communication with PROFINET, EtherNet/IPTM, Modbus TCP, POWERLINK/CiA 402 – DBC – Direct binary communication – DAC – Direct AS-interface communication – DSI – Direct system bus installation with EtherCAT®/SBusPLUS, EtherCAT®/CiA 402
Certification of Conformity	CE / CMIM / EAC / RCM / UA.TR / UKCA / UL approved

SEW opens an Electronics DC at Bangalore

SEW India has recently inaugurated a Drive Centre in Bangalore that will bring its automation capabilities closer to its customers in this important business region. DriveIndia talks to Dhananjay Bendale – Head of Automation at SEW India, to find out the details and the importance of this for SEW's customers.

Firstly can you tell us a little bit about yourself and your journey with SEW India?

I graduated in 1996 from University Of Mumbai with a degree in Electronic Engineering including Industrial Electronics. Before joining SEW in 2008, I worked for 12 years in the field of machine automation. I currently head the automation vertical and am responsible for the development of Drives and Automation business for SEW in India. With a team of experienced application engineers spread across the country we offer cutting edge drive technology solutions to our valued customers. SEW's vast range of innovative and advanced products catering to a wide range of industry segments provides ample opportunities to learn and explore new things every day. This keeps me motivated and so far the journey of 16 years in SEW feels very short and satisfying.

What does SEW mean by a Drive Centre (DC)? How is it different from a Drive Technology Centre (DTC)?

A DTC is a full-fledged assembly plant for both geared motors and electronics products including stocking of components that facilitate our best-in-class delivery times. The DTCs also incorporate centralised engineering support as well as centralised service support infrastructure. We have 4 DTCs in India in Vadodara, Chennai, Pune and the NCR and approaching a 100 DTCs globally.

The DC on the other hand is a decentralized competence facility that has the engineering and service infrastructure, but not the component storage and assembly facilities of the DTC. The DC at Bangalore is focused on SEW's electronic products. It is a simple and efficient interface for customer projects: from project planning and software development to commissioning and customer training as well as a service centre for faster response in the local area.

Why did you decide to start the DC in Bangalore?

Even though the Chennai DTC is only 5 hours away by road, Bangalore is a very important automation market for us, both in terms of large existing and upcoming End User installations as well OEMs with whom we work closely on existing and new products. We were convinced that supporting both these sets of customers in a better way required us to make this investment of a DC with enhanced infrastructure and local engineering support.

How our customers are beneficiaries of the Bangalore Drive Centre?

Apart from the repair services, Bangalore DC is well-equipped with state-of-the-art training facilities for our customers. Application engineers at OEMs and maintenance engineers at End Users can get hands-on experience on products and solutions offered by SEW. The goal is to help our customers acquire the necessary knowledge and develop the skills to master SEW products quickly and get maximum value from them.

What are the products and applications that will form part of the Drive Centre?

Our Bangalore DC covers the complete range of electronic products from SEW. Cabinet level frequency inverters, servo inverters and our decentralised range of inverters can all be repaired at this facility.

Training on various products and multi-motion control software modules like camming, gearing, multi-axis control, etc. can be imparted to application engineers. Based on customer requirement, customised training can be arranged for various applications like ASRS, X-Y gantries, palletiser, pick-and-place, etc.

How does SEW perceive the Drives and Automation market in India, and what role does this new facility play in it?

India is a developing country and the level of automation in material movement and machine automation is way behind developed countries with much higher labour costs. This gives tremendous opportunities for growth due to India's scale and as India becomes richer. We are experiencing that COVID has only accelerated this trend towards automation. However, successful automation requires a reliable product, reliable design & engineering, and reliable & quick service along with training support. The new DTC at Bangalore will greatly enhance all these capabilities in the local region.